

Hummingbird Maestro NFS Connectivity

Installation and configuration

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Creo Inc.
3700 Gilmore Way
Burnaby, BC
Canada V5G 4M1
(604) 451-2700

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Note: Sections 1 – 3 are common for both NFS Maestro Server and NFS Maestro Client/Solo.

1. INTRODUCTION

This document provides a brief overview of Windows-to-Unix connectivity and offers general instructions for the installation of Hummingbird Maestro NFS Client and Server on Creo Windows NT version 4.0 and Win2K based systems.

Hummingbird NFS allows computers running Microsoft Windows NT operating system to interact with Unix systems that are running Network File System (NFS) to share data. Many different CEPS Unix-based systems and Unix file servers exist in the printing industry. This document will give general guidelines for the installation and configuration of the Windows based software. Due to the many different versions of Unix used, it is very difficult to cover every problem that may arise. It is recommended that the customer read the documentation provided with the Hummingbird NFS software. Installation of this software will also require assistance from the customer's Unix system administrator or the person who is most familiar with the Unix systems at that particular site.

2. AUTHENTICATION

One of the more difficult aspects of connecting Windows based NFS software to a Unix NFS server usually involves user authentication. Authentication involves the NFS client asking a NFS authentication server on the network to see if it is allowed to access the NFS share. On some variations of Unix, the NFS server (daemon) software will request authentication. The NFS client in Hummingbird will always try to be authenticated by the specified NFS authentication server on the network. Hummingbird Maestro Server includes Pcnfsd for authenticating the clients who want to connect to it.

When installing the Maestro NFS client we recommend you have the authentication daemon installed on a Unix box, either Pcnfsd or Hclnfsd. You can obtain this daemon from the hummingbird FTP site, be sure you get the proper one based on the Unix machine you are installing it on. Ask the sites Unix administrator to help you if you have any doubts. ftp://ftp.hummingbird.com/pub/maestro/hclnfsd/.

3. BEFORE YOU START

1. Contact the Unix system administrator to find out what user account to employ for NFS access (for Scitex systems, use the "scitex" account). If necessary, set up a user account and password for access to the Unix system. This user account should be set with the desired read, write, and delete privileges needed for the NFS access.

2. Record the TCP/IP addresses of all Unix and Windows NT systems that will be communicating with each other. These TCP/IP addresses must be entered in the **hosts** file on each Unix and WinNT system. The **hosts** file on a Unix system is usually located in the /etc directory of the root drive. The **hosts** file on a WinNT system is in the **\WINNT\SYSTEM32\DRIVERS\ETC** directory of the system drive (usually D:\ on Creo systems or C:\ on others). The content of a hosts file is usually just a few lines of text with a TCP/IP address matched to a system hostname:

#Host Address	Host Name	Alias
192.197.218.36	ps2	
192.197.218.24	solaris	

3. Read all supplied documentation on the installation and configuration of Hummingbird NFS Server and Maestro.
4. Uninstall any NFS related products (that is, ChameleonNFS, DiskAccess, DiskShare) and the Microsoft Internet Information Server from the system.
5. Ensure that the TCP/IP protocol is installed and configured properly on the Windows NT systems and UNIX systems (requires cooperation from site's UNIX system administrator).
6. Update the **hosts** file on all Windows NT systems and UNIX systems that will be communicating with each other (requires cooperation from site's UNIX system administrator). The preference is to also include the NT machine name and IP address in your **hosts** file at the NT side.
7. Verify that each system can communicate with one another by executing the ping command from every system that will be communicating with each other (requires cooperation from site's UNIX system administrator).
8. Log on to the Windows NT system as Administrator

4. INSTALLATION OF NFS MAESTRO SERVER VER.7.1

The NFS Server software is installed on the Windows NT, 2000 system. This software allows the operator to share NT shared directories as NFS volumes for other machines running NFS client software. The NFS software also provides user authentication for the Hummingbird NFS client software when connecting to systems that have incompatible or absent authentication software.

NFS server software should be installed only if you would like to share directories or drives from the Windows NT system so that they can be accessed by other workstations running NFS clients. Or if you want to have the UNIX workflow drive be a Prinergy hot folder.

4.1 Installation Procedure

1. Insert the Hummingbird NFS Maestro Server CD-ROM in your drive, and follow the installation prompts by accepting the software agreement, entering the user name, installation folder.
2. Select the "Typical" install.
3. Click on the Finish button and restart the system.

4.2 Configuring Maestro Server ver.7.1:

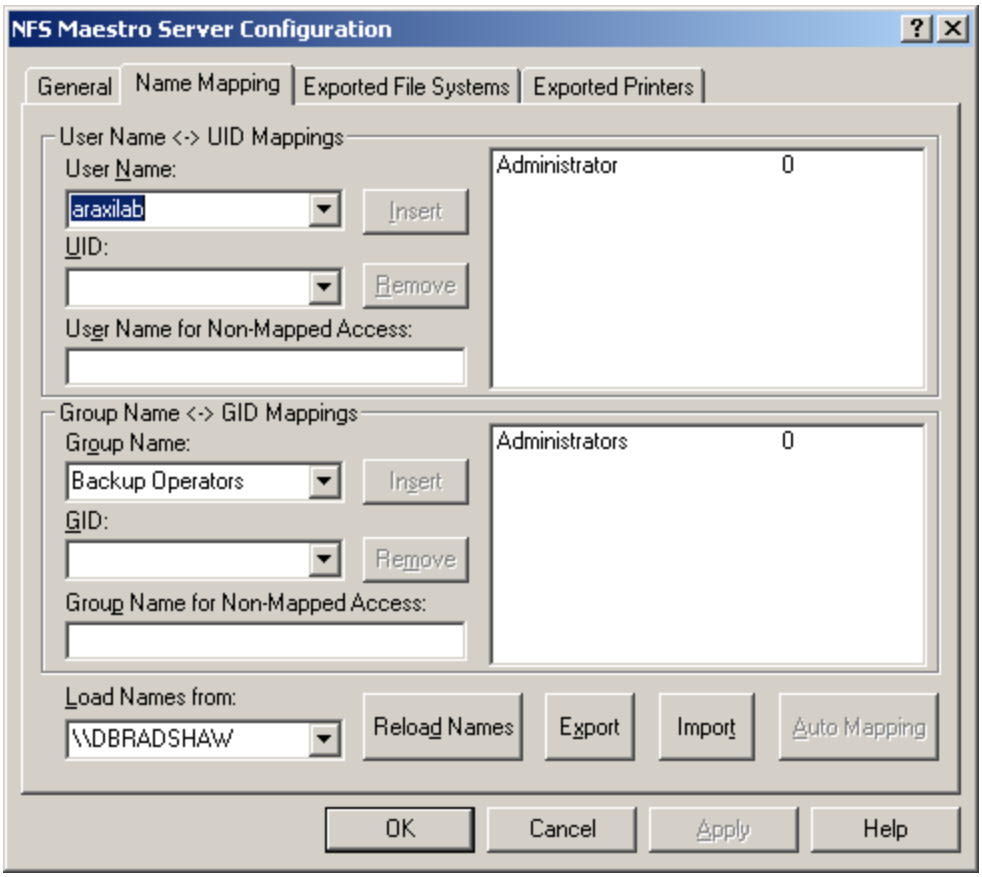
To mount an NT share exported using Maestro Server you need to map the Unix user to an NT user. In order to map a user follow the steps below:

1. Go to Control Panel and open “Hummingbird NFS Server”.
2. Select the “Name Mapping” tab.
3. Go to “Load NT names from” and select the name of your NT box (The box you installed Maestro server on).
4. Select Reload Names
5. Go to the “User Name” and select the NT user name you want from the drop down list.

   Note: If you are using “root” on the Unix side to write to this NFS share then you should map “root” to administrator. If you use a different user on the Unix side then you can either map them to administrator or any other user on NT that has the appropriate privileges.

   Note: If you are using a Scitex box then you may want to map the Scitex user who has a UID of 200 on Brisque systems and 210 on a PS2 box.
6. Now go to “UID” field and type the UID number of the Unix user who you are mapping. If you are mapping “root” you should enter “0”.
7. Click on Insert button and the mapping should appear in the window.
8. For the Group Name <-> GID mapping you should map the primary group of the Unix user to the primary group of the NT User you assigned in step 7.

Note: If it is “root” then the GID should be either “0” or “1”. It depends on your Unix machine. Check with the Unix admin of the site. OR you can login to the UNIX machine using the account you are setting up and type id then press enter. This should tell you the UID and GID that you are logged in with.



4.3 Configuring an NFS export

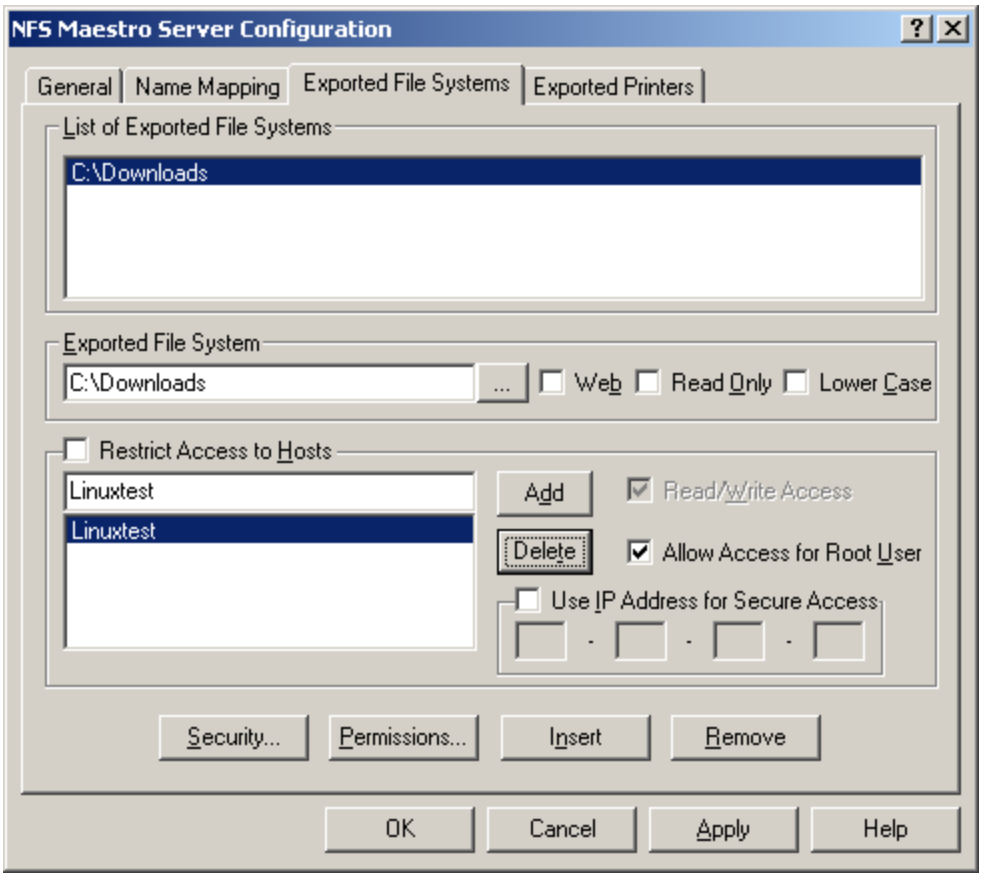
This section will detail the process of creating a shared directory that can be exported from Windows 2000/NT with Maestro NFS Server installed on it. This export can then be mounted by almost any Unix system so that it appears as another local directory on the Unix workstation.

4.3.1 Exporting a Folder:

1. Get the properties of the folder you are going to export and go to permissions/Security in Win2k.
2. Ensure that **Everyone** has **Full Control** of this folder.
3. Open the Maestro Server Configuration window through Control Panel/ Hummingbird NFS Server, and select the “Exported file systems”.
4. Browse and select the path that you want to export by clicking the related button (next to Exported File system) and then assign the permissions. Usually we want to have read/write permission so do NOT check the “Read Only” check box.

Note: Pay attention on correct case in the “Exported File system” field. You should use exactly the correct case on Unix side when you want to mount this drive. Include the drive letter. IE: image below is \C\Downloads

5. Uncheck the “Restrict Access to Hosts” box



6. If you are accessing this file system using root then enter the name of the Unix box in the empty field you see under the restrict access and click Add.
7. Now the name should appear in the window. While this name is highlighted go to the right hand side and check the box named “Allow Access for root User”
8. Click “Apply”.

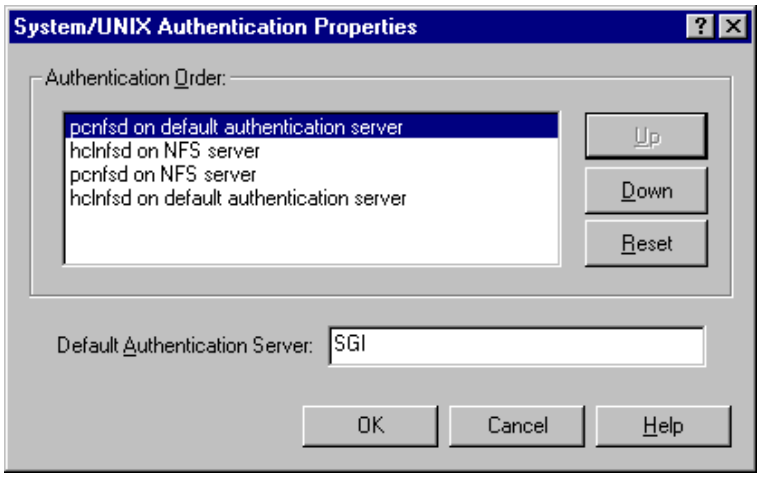
5. INSTALLATION OF NFS MAESTRO CLIENT 7.1

Once you have updated the **hosts** file on the Unix and Windows NT systems and (if required) successfully created a user account on the Unix system, you can begin installation of the Maestro NFS Client software.

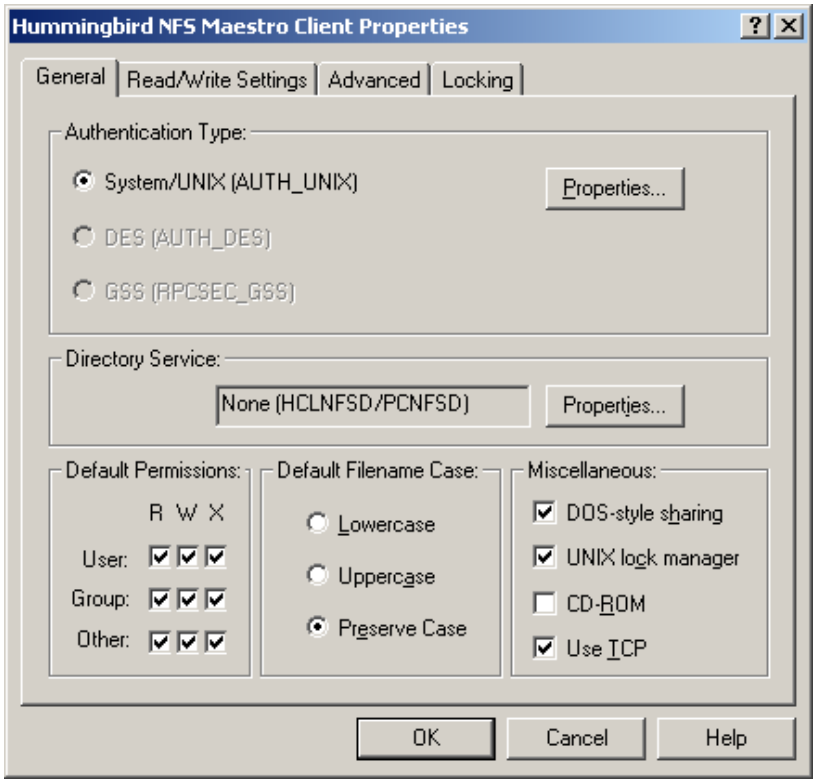
5.1 Installation Procedure

1. Insert the Hummingbird NFS Maestro Client 7.1 CD-ROM into the system CD-ROM drive.
2. Select “Install NFS Maestro Client”.
3. Select “Personal Installation”
4. Select the language and follow with the screens pressing next and accepting the software agreement.

5. Select “Anyone who uses this computer (all users)” and click **Next**.
6. Select the destination folder you decide to install it in.
7. Go for Typical installation.
8. Reboot
9. Depending on the Authentication daemon you have on your Unix box bring either “pcnfsd on default authentication server” OR “hclnfsd on default authentication server” up.



10. Click **Next** then select the “System/Unix” option in the next screen.
11. Select the uppermost option for Locking Settings.
12. Deselect the checkbox beside Run Parmset leave the checkbox beside “Scan the network for NFS servers” checked, and then and click **Finish**.
13. Right Click on “My Network Places” on the desktop.
14. Select Local Area Connection.
15. Right Click and select Properties.
16. Select Hummingbird NFS Maestro Client
17. Click Properties
18. When the Maestro client properties box appears on the screen make sure to have the following fields checked:
    - Permission for Group and others should be checked.
    - Unix Lock manager box should be checked
    - Dos style sharing should be checked
    - Tcp should be checked
    - Def Authentication Protocol = System/Unix (Auth Unix)
    - Directory service = None (HCLNFSD/ PCNFSD)



Note: The Def. Auth. Server would be the Unix box running either "pcnfsd" or "Hclnfsd".

19. Click OK to close the Maestro client properties box.
20. Go Start Menu/ Programs/ Hummingbird Connectivity 7.1/ NFS Maestro client / NFS network Access.
21. Click on the different user name text.
22. Type in the user name and password of the Unix user that is valid on the Unix box and click on Register.
23. Click OK
24. Click Browse

5.2 Setting Client Configuration Defaults

If you have not already set the NFS Client Configuration defaults during installation, use the following procedure:

1. Open the Maestro client properties box through network properties.
2. Go over the settings described in section 5.1 steps 8 - 10.

5.3 Mounting a Unix NFS export from Windows NT using Maestro NFS Client

1. Select Start / Programs / Hummingbird 7 .1connectivity / NFS Maestro client/ NFS Network Access
2. Network Path: Use the Browse button to search for the correct path. Path will look similar to \\sgi\/araxivolume
3. Username: You do not need to fill out any thing here as long as you have a registered name.
4. Persistent connection: Ensure that this box is selected so that the export is mounted at NT system startup.
5. Other parameters are picked up from the defaults setup. Click **Connect** to connect the network drive to the NFS export.
6. Click **Exit**.

6. TROUBLE SHOOTING TIPS:

1. Attempting to export to the root of an NFS share causes the following error "Unable to access the output destination **\\DavesLinux\araxivolume** because of an internal error #53d."

   However, you can send files to a subdirectory of the NFS export. To do this, add a subdirectory to your NFS share point, and then ensure that the access permissions are rwxrwxrwx (that is, run chmod 777). Now, set your absolute path to be this subdirectory. That is, destination **\\DavesLinux\araxivolume\subdirectory**

2. It is recommended that you add the IP and hostname of the NT machine itself, to minimize chances of errors (this bug used to show up in Maestro client versions earlier than 6.1).

3. Verify the four UNIX daemons required for NFS are running properly (if they are not running, contact the UNIX support provider of your suite). These four daemons are as follows:

   portmapper

   nfs/nfsd

   mountd

   pcnfsd or hclnfsd

   Verification can be done either at Unix side by entering "rpcinfo –p|more" or at NT side via Rpcinfo utiltiy of Maestro client.

4. If you have problems mounting an exported file system with Maestro NFS server, check the correct case of the folder name exported on the NT side.

5. If you can mount the exported file system from NT but you can't write into it, there is a problem with user or group mappings on you Maestro server side. If only root has this problem check to ensure you have given root access. Most Unix systems do not allow root to have remote access by default.

6. If you are not able to browse the NFS network or you browse it and you don't see a recent exported folder, Use the exports utility of Maestro client to update the list of shares on NFS servers (Like Step 22 of section 5.1).